Translation

ENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P800230/WO/1	**FOR FURTHER ACTION**	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/EP2003/008679	International filing date (*day/month/year*) 06 August 2003 (06.08.2003)	Priority date (*day/month/year*) 24 August 2002 (24.08.2002)
International Patent Classification (IPC) or national classification and IPC G05B 19/418		
Applicant DAIMLERCHRYSLER AG		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 8 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 18 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 01 December 2003 (01.12.2003)	Date of completion of this report 20 September 2004 (20.09.2004)
Name and mailing address of the IPEA/EP Facsimile No.	Authorized officer Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.
PCT/EP2003/008679

I. Basis of the report

1. With regard to the elements of the international application:*

☐ the international application as originally filed

☒ the description:

pages _____, as originally filed
pages _____, filed with the demand
pages 1-14, filed with the letter of 23 August 2004 (23.08.2004)

☒ the claims:

pages _____, as originally filed
pages _____, as amended (together with any statement under Article 19
pages _____, filed with the demand
pages 1-11, filed with the letter of 02 September 2004 (02.09.2004)

☒ the drawings:

pages 1/3-3/3, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

☐ the sequence listing part of the description:

pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language _____ which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____
☐ the claims, Nos. _____
☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* *Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).*

** *Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.*

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-4, 6-11	YES
	Claims	5	NO
Inventive step (IS)	Claims	1-4, 7-11	YES
	Claims	5-6	NO
Industrial applicability (IA)	Claims	1-11	YES
	Claims		NO

2. Citations and explanations

Reference is made to the following search report citation:

D1: US-A-6 014 304 (BURNUS OLIVER ET AL)
11 January 2000 (2000-01-11)

A. **Explanations concerning Box V**

1. Claims 1 to 4, 7 and 8, 10

1.1 The present invention is defined by a method as per claim 1 for temperature management in a data network, wherein the transmission unit is switched off when a predefined critical temperature is exceeded, and prompting demands made on the network are blocked until the temperature drops below a likewise predefined threshold, the temperature threshold being below the critical temperature. Furthermore, during the prompting demand blocking phase, the control apparatus which has exceeded the predefined temperature threshold is switched to an energy-saving mode.

1.2 The closest prior art is represented by US-A-6014304 (D1), which discloses a method wherein a transmission unit is switched off when the temperature thereof exceeds a predefined critical temperature and prompting demands on the network are blocked until the temperature drops below a likewise predefined threshold, the latter being below the critical temperature.

1.3 The method of managing temperature in a data network wherein the transmission unit is switched off when a predefined critical temperature is exceeded, as per claim 1, differs from the method disclosed in D1 in that, in addition to the blocking of the prompting demands made on the network, the transmission unit whose temperature is above the predefined threshold is switched to an energy-saving mode.

1.4 The arguments in point 1.3 above show that the subject matter of claim 1 is novel (PCT Article 33(2)).

1.5 The objective problem to be solved by the present invention is that of optimizing the method of managing temperature in a data network, taking particular account of transmission units whose temperature is above a predefined threshold.

1.6 None of the available citations discloses or suggests carrying out the method as per claim 1 for temperature management in a data network, wherein, when a predefined critical temperature is exceeded, not only is the transmission unit switched off and prompting demands made on the network blocked, but

the transmission unit whose temperature exceeds the predefined temperature threshold is switched to an energy-saving mode, such that the objective problem is therefore solved in a non-obvious manner.

1.7 Consequently, the arguments in point 1.6 above show that the subject matter of claim 1 involves an inventive step (PCT Article 33(3)).

1.8 The subject matter of claim 1 also has industrial applicability, such that it also meets the requirements of PCT Article 33(4).

1.9 Dependent claims 2 to 4, 7 and 8 and 10 concern further details for implementing the method as per claim 1 and are therefore also novel and inventive and have industrial applicability (PCT Article 33(2) to (4)).

2. Claim 9

2.1 The subject matter of independent claim 9 differs from the subject matter of claim 1 in that the feature

(i) when the critical temperature is reached, an error code is stored for diagnostic purposes

in claim 9 replaces the feature "as soon as the temperature of the transmission/receiving unit exceeds the predefined critical temperature, the control apparatus is switched to an energy-saving mode" in claim 1.

2.2 Since feature (i) is not disclosed in D1, the subject matter of claim 9 is also novel (PCT Article 33(2)).

2.3 The objective problem to be solved by the present invention is identical to that formulated in point 1.5.

2.4 None of the available citations discloses or suggests carrying out the method as per claim 9 for temperature management in a data network, wherein, when a predefined critical temperature is exceeded, not only is the transmission unit switched off and prompting demands made on the network blocked, but an error code is stored for diagnostic purposes, such that the objective problem is therefore solved in a non-obvious manner. The solution proposed here is an alternative to the solution proposed in claim 1 for solving the same problem, such that this alternative is likewise non-obvious and hence inventive.

2.5 Consequently, the arguments in point 2.4 above show that the subject matter of claim 9 involves an inventive step (PCT Article 33(3)).

2.6 The subject matter of claim 9 also has industrial applicability, such that it also meets the requirements of PCT Article 33(4).

3. Claims 5 and 6

3.1 Entirely in keeping with the features of claim 5, D1 discloses a method of managing temperature in a

network (see D1, figure 1; column 1, lines 66 and 67), wherein:

- control apparatus exchange data over the network by means of transmission/receiving units (D1, figure 1; column 1, lines 66 and 67; column 2, lines 1 to 21);

- the temperature of the transmission/receiving unit of at least one control apparatus is measured (D1, column 2, lines 1 to 21);

- as soon as the temperature at the transmission/ receiving unit of the control apparatus exceeds a predefined critical temperature (D1, column 2, lines 1 to 21),

- the transmission/receiving unit is switched off (D1, column 2, lines 34 to 46), and

- prompting demands made on the network are blocked by the control apparatus (D1, column 2, lines 34 to 46);

- the blocking of the prompting demands is lifted as soon as the transmission/receiving unit temperature has dropped below the predefined critical temperature and below a predefined threshold within a given amount of time, the threshold temperature lying below the critical temperature (D1, column 2, lines 1 to 32); and

- when the critical temperature is reached, a message is sent to the other transmission apparatus (D1, column 5, lines 45 to 50).

Therefore the subject matter of claim 5 is not novel (PCT Article 33(2)).

3.2 Since the subject matter of claim 5 is not novel, it is *a fortiori* not inventive (PCT Article 33(3)).

3.3 The subject matter of claim 5 has industrial applicability, such that it meets the requirements of PCT Article 33(4).

3.4 Dependent claim 6 does not contain any additional features which, combined with the features of claim 5, involve an inventive step since this claim concerns only one of many obvious possibilities from which a person skilled in the art would choose according to the circumstances to solve the problem of interest, without thereby being inventive. Therefore, although the subject matter of claim 6 is novel (PCT Article 33(2)), it does not involve an inventive step (PCT Article 33(3)). The subject matter of claim 6 has industrial applicability, such that it meets the requirements of PCT Article 33(4).

4. Claim 11

4.1 Since claim 11 refers to all the preceding claims, for the sake of the argument it is only mentioned now.

4.2 The subject matter of claim 11 concerns a use of the method according to any one of claims 1 to 10 in a databus system with ring topology.

4.3 Following the arguments in points 1 and 2 of this report, the use of the method according to claims 1 to 4 and 7 to 10 in a bus system with ring topology is novel and inventive and has industrial applicability (PCT Article 33(2) to (4)).

4.4 The use of the method as per claims 5 and 6 in a bus system with ring topology is novel (PCT Article 33(2)) but does not involve an inventive step (PCT Article 33(3) since the subject matter of claims 5 and 6 itself is not inventive and since the use of a bus system with ring topology is only one of several obvious possibilities from which a person skilled in the art would choose according to the circumstances in order to solve the problem of interest, without thereby being inventive. The subject matter of these claims does have industrial applicability (PCT Article 33(4)).

B. Further observations

1. Although claims 1, 5 and 9 are drafted as separate, independent claims, they actually refer to the same subject matter and differ only in terms of differing definitions of the subject matter for which protection is sought. Thus the claims are not concise. Moreover, the claims as a whole lack clarity, since, owing to the number of independent claims, it is difficult, if not impossible, to determine the subject matter for which protection is sought, hence rendering it unreasonably difficult for third parties to establish the scope of protection.

Therefore claims 1, 5 and 9 do not meet the requirements of PCT Article 6.